Supplementary Material (ESI) for Photochemical & Photobiological Sciences

Table of the quantum yields (×1000) of formation of pyrimidine photoproducts determined under different experimental conditions

Effect of temperature in pure water (DNA concentration: 50 μg ml^{-1})										
Temp. (°C)	TT-CPD *c,s*	TT-CPD *t,s*	TT-(6-4)PP	TC-CPD *c,s*	TC-CPD *t,s*	TC-(6-4)PP	CT-CPD *c,s*	CT-CPD *t,s*	CT-(6-4)PP	CC-CPD *c,s*
0	0.972±0.048	0.048±0.002	0.080±0.004	0.117±0.010	0.014±0.001	0.088±0.005	0.102±0.004	0.010±0.001	0.001±0.000	0.006±0.001
30	0.709±0.030	0.056±0.003	0.066±0.001	0.107±0.007	0.027±0.001	0.054±0.003	0.088±0.001	0.017±0.001	0.004±0.001	0.007±0.001
50	0.502±0.021	0.054±0.002	0.053±0.001	0.081±0.006	0.028±0.001	0.037±0.002	0.066±0.002	0.021±0.001	0.003±0.001	0.003±0.001
70	0.268±0.019	0.034±0.003	0.030±0.001	0.049±0.005	0.022±0.001	0.020±0.003	0.035±0.003	0.015±0.001	0.002±0.000	0.002±0.000
80	0.322±0.019	0.050±0.003	0.039±0.001	0.068±0.002	0.029±0.001	0.026±0.002	0.030±0.011	0.020±0.001	0.003±0.000	0.004±0.000
90	0.307±0.013	0.055±0.003	0.037±0.001	0.063±0.001	0.032±0.001	0.024±0.001	0.026±0.008	0.021±0.001	0.004±0.001	0.003±0.000
Effect of temperature in 0.1 M NaCl (DNA concentration: 50 μg ml^{-1})										
Temp (°C)	TT-CPD *c,s*	TT-CPD *t,s*	TT-(6-4)PP	TC-CPD *c,s*	TC-CPD *t,s*	TC-(6-4)PP	CT-CPD *c,s*	CT-CPD *t,s*	CT-(6-4)PP	CC-CPD *c,s*
0	0.548±0.031	0.000±0.001	0.033±0.001	0.300±0.032	0.000±0.000	0.286±0.008	0.103±0.010	0.000±0.000	0.001±0.000	0.031±0.004
30	0.673±0.032	0.006±0.001	0.050±0.001	0.309±0.034	0.003±0.000	0.271±0.004	0.102±0.009	0.001±0.001	0.002±0.001	0.026±0.004
50	0.660±0.028	0.006±0.001	0.056±0.002	0.301±0.020	0.004±0.001	0.226±0.002	0.094±0.007	0.002±0.001	0.001±0.000	0.025±0.005
70	0.693±0.028	0.008±0.000	0.066±0.002	0.318±0.031	0.005±0.001	0.216±0.005	0.071±0.028	0.003±0.001	0.001±0.000	0.021±0.003
80	0.550±0.028	0.017±0.001	0.060±0.001	0.295±0.013	0.009±0.001	0.186±0.004	0.068±0.025	0.006±0.001	0.002±0.000	0.023±0.002
90	0.312±0.013	0.045±0.004	0.038±0.001	0.128±0.005	0.038±0.001	0.069±0.000	0.057±0.019	0.023±0.000	0.003±0.000	0.014±0.001
Effect of NaCl concentration (DNA concentration: 50 μg ml^{-1}; Temperature: 30°C)										
NaCl (M)	TT-CPD *c,s*	TT-CPD *t,s*	TT-(6-4)PP	TC-CPD *c,s*	TC-CPD *t,s*	TC-(6-4)PP	CT-CPD *c,s*	CT-CPD *t,s*	CT-(6-4)PP	CC-CPD *c,s*
0	0.709±0.030	0.056±0.003	0.066±0.001	0.107±0.007	0.027±0.001	0.054±0.003	0.088±0.001	0.017±0.001	0.004±0.001	0.007±0.001
0.02	0.586±0.065	0.007±0.001	0.044±0.006	0.272±0.015	0.004±0.001	0.247±0.026	0.095±0.011	0.002±0.000	0.002±0.001	0.023±0.004
0.05	0.627±0.037	0.005±0.000	0.046±0.004	0.314±0.013	0.004±0.000	0.265±0.015	0.100±0.008	0.002±0.000	0.002±0.001	0.028±0.004
0.1	0.673±0.032	0.006±0.001	0.050±0.001	0.309±0.034	0.003±0.000	0.271±0.004	0.102±0.009	0.001±0.001	0.002±0.001	0.026±0.004
0.2	0.535±0.067	0.002±0.000	0.039±0.005	0.258±0.025	0.002±0.000	0.238±0.024	0.087±0.011	0.001±0.000	0.001±0.000	0.025±0.002
Effect of DNA concentration in pure water (Temperature: 30°C)										
DNA (μg ml^{-1})	TT-CPD *c,s*	TT-CPD *t,s*	TT-(6-4)PP	TC-CPD *c,s*	TC-CPD *t,s*	TC-(6-4)PP	CT-CPD *c,s*	CT-CPD *t,s*	CT-(6-4)PP	CC-CPD *c,s*
50	0.709±0.030	0.056±0.003	0.066±0.001	0.107±0.007	0.027±0.001	0.054±0.003	0.088±0.001	0.017±0.001	0.004±0.001	0.007±0.001
100	0.831±0.086	0.063±0.007	0.076±0.010	0.193±0.011	0.050±0.008	0.108±0.013	0.149±0.012	0.029±0.005	0.007±0.002	0.014±0.002
200	0.653±0.042	0.042±0.004	0.057±0.004	0.222±0.019	0.032±0.004	0.138±0.008	0.123±0.009	0.015±0.003	0.006±0.002	0.025±0.004
500	0.504±0.062	0.020±0.003	0.040±0.006	0.220±0.030	0.012±0.003	0.177±0.023	0.081±0.012	0.009±0.002	0.003±0.001	0.024±0.005
1000	0.624±0.143	0.011±0.002	0.048±0.010	0.282±0.077	0.003±0.001	0.255±0.054	0.093±0.027	0.002±0.001	0.002±0.001	0.023±0.010

The quantum yields (±error) were obtained by linear regression of the amount of photoproducts produced with respect to the applied dose. Neither the Dewar valence isomers nor the CC (6-4) photoproduct were detected in significant amount.